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NEW SPECIES OF *CHRYSOPILUS* FROM THE NEOTROPICAL REGION (RHAGIONIDÆ, DIPTERA)

BY C. H. CURRAN

All the species of Rhagionidæ which I have seen from the Neotropical region belong to the genus *Chrysopilus* Macquart. This name was proposed by Macquart in 1826, but in 1834 he changed the spelling to *Chrysopila*, the latter spelling being generally used until 1908. In 1850, Rondani proposed the name *Leptipalpus* for those species having the anal cell petiolate apically, but this character is unimportant and the name should be placed in the synonymy under *Chrysopilus*. All the species I have seen from the Neotropical region have the anal cell closed and petiolate. The females may be separated into two more or less distinct groups on the basis of the frontal width, but it is impossible to so separate the males.

It seems strange that the Rhagionidæ from tropical America should be so poorly represented in collections, but the number of specimens is very small. In no case is a species known from more than ten examples, and usually the number does not exceed two or three. In Panama I found only an occasional specimen, and these usually at widely separated localities.

In order to make the present paper as inclusive as possible, I have included descriptions of four species described by Mr. S. W. Bromley several years ago. These will be found at the end of the paper. For specimens from Porto Rico and Cuba I am indebted to Drs. M. D. Leonard and Joseph Bequaert.

The types of the new species are in The American Museum of Natural History.

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Chrysopilus panamensis, new species

Black; wings tinged with brown; tibiæ yellowish; abdominal segments with golden pile basally. Length: male, 6 mm.; female, 5 mm.

MALE.—Head gray pollinose, in some lights shining; facial and frontal orbits opaque black; vertical triangle brown pollinose and with short, sparse, black hair. Pile of the occiput pale yellowish, the occipital cilia black. Palpi black, black-haired. Antennæ blackish, the third segment decidedly smaller than the second; arista short pubescent.

Thorax black in ground color; pleura, notopleura and the anterior border of the mesonotum bluish-gray pollinose, the mesonotum, humeri and scutellum brownish pollinose. Tomentum and hair yellowish, the tomentum black on the disc; notopleura, upper edge of mesopleura, posterior part of the mesonotum and the border of the scutellum with some coarse black hairs. Hair on the slopes of the metanotum black, the fine pile pale yellowish.

Legs blackish; coxæ cinereous pollinose and pale pilose, the apices black-haired; apices of anterior four femora and their tibiæ, yellowish, posterior tibiæ and the broad apices of the anterior four tibiæ brownish. Hair black, wholly short.

Wings hyaline, tinged with yellowish brown or gray on the apical third; veins brown. Stigma brown, about four times as long as wide, the second vein regular. Anal cell closed and petiolate at the apex. Squamæ brown, with yellow fringe. Halteres black, the basal half reddish yellow.

Abdomen sub-shining brown, with golden tomentum on the first segment and the basal half or more of the second to fourth; these segments with black tomentum on the apical half; all the segments with sparse, erect hair. Venter pale pilose on the basal half.

FEMALE.—Front wide, grayish pollinose from dorsal view, short black-haired; sulcate in the middle and with a broad depressed area extending from side to side immediately above the antennæ; from frontal view appearing blackish. Occiput brown pollinose above. Wings less conspicuously darkened apically. Ovipositor black.

TYPES.—Holotype, male, Corozal, Canal Zone, January 19, 1929; allotype, female, Corozal, January 16, 1929; paratype, female, Corozal, January 31, 1929 (Curran).

Chrysopilus bequaerti, new species

Black; femora brown with pale apices; tibiæ yellowish; wings hyaline; abdomen with golden and black tomentum. Length, 4.5 to 5 mm.

MALE.—Head brownish-gray pollinose, dull, the vertical triangle brownish. Occipital pile pale yellow, the hair on the upper third and on the palpi black. Proboscis brown; palpi black. Antennæ brown; third segment almost or quite as large as the second; arista bare or almost so.

Thorax black in ground color; pleura brownish gray, the mesonotum and scutellum grayish-brown pollinose. Mesonotum and scutellum with brassy-yellow tomentum; notopleura, posterior fourth of the mesonotum and the border of the scutellum with black hairs. Pleural pile wholly yellow.

Coxæ brown, cinereous pollinose, yellowish pilose on the basal half, black apically. Femora brown, the base and apex reddish yellow, the anterior four with pale yellowish, the posterior pair with mostly black, appressed tomentum. Tibiæ yellowish, the posterior pair slightly darker. Tarsi yellowish basally, the apical three segments brown. Hair short and black.

Wings hyaline; stigma brown, one-half longer than wide; second vein regular; anal cell closed and petiolate. Squamæ brown, with pale fringe. Halteres reddish yellow the knob black with the apex broadly yellowish.

Abdomen brownish black, dull, clothed with brassy yellow and blackish tomentum; first segment and base of the second segment pale tomentose, the remaining segments with the pale tomentum predominating, the second and third broadly blackish tomentose behind. Hair rather short and black. Venter brown, pale pilose on the basal half, the apical two or three segments and the apices of the others black-haired.

TYPES.—Holotype, male, and paratype, male, Soledad, Cuba, April 10, 1926 (J. Bequaert).

Chrysopilus unicus, new species

Black, the legs reddish yellow; tomentum whitish. Length, 4 mm.

FEMALE.—Face, lowest fifth of the front, posterior orbits and two frontal vittæ which are divergent in front of the ocelli, yellowish brown, the front and occiput

brown pollinose; hair wholly black, that on the front sparse, coarse and moderately long. Proboscis and palpi blackish, black-haired. Antennæ brown, the third segment about as large as the second; arista pubescent. Front with parallel sides, widening on the posterior third.

Thorax opaque brown, the pleura and notopleura appearing opaque black in some views; tomentum of the mesonotum and scutellum very pale yellowish; hair, except the fine hair on the metanotal slopes which is brownish yellow, wholly black.

Legs yellow; coxæ black, thinly brown pollinose, black-haired; tarsi brownish apically and slightly widened; hair short, yellow on the femora, black on the tibiæ and tarsi.

Wings hyaline; stigma dark brown, almost three times as long as wide, convex apically, the stigmal cell distinctly widened; anal cell closed and petiolate. Squamæ brown. Halteres reddish yellow, the basal half of the knob brown.

Abdomen black; first segment and basal third of the three following silvery tomentose, the tomentum on the posterior part of the segments brown; hair black; basal segments of the ovipositor yellow. Venter brownish black, black-haired.

TYPE.—Female, Barro Colorado Island, Canal Zone, December 26, 1928 (Curran).

Chrysopilus leonardi, new species

Very similar in appearance to *unicus*, new species, but the front is narrower, its sides gently diverging anteriorly and less strongly diverging posteriorly, stigma shorter, etc. Length, 5 mm.

FEMALE.—Front, occiput and cheeks dark brown pollinose, the face, lower fifth of the front, posterior orbits and the border of the ocellar triangle, yellowish brown; hair of the front short. The vertex widens strongly behind the posterior ocelli. Palpi blackish, the proboscis reddish brown. Antennæ brown, the third segment about the same size as the second; arista short pubescent. Hair of the head black, that on the cheeks and lower part of the occiput tawny.

Thorax brownish red in ground color, brown pollinose, the lateral margins in front of the wings, posterior calli and two obscure dorsal vittæ more or less distinctly reddish. Tomentum and most of the hair on the mesonotal slopes very pale yellowish, Hair black.

Legs yellowish; coxæ brown, black-haired, thinly brown pollinose; apical three tarsal segments brownish. Femora pale-haired and with pale tomentum; tibiæ and tarsi with black hair.

Wings hyaline, the stigma very dark brown, not twice as long as wide, the stigmal cell conspicuously widened. Anal cell closed and petiolate. Squamæ clear, with brown border and pale fringe. Halteres with black knob, the apex and the stem reddish yellow.

Abdomen brown, brown pollinose, yellowish-white tomentose, the broad apices of the second and third segments and a median triangle on the apex of the fourth, bearing black tomentum. Hair black. Intermediate segments of the ovipositor yellowish brown.

TYPE.—Female, Puerto Real, Vieques Island, April 29, 1930 (M. D. Leonard).

Chrysopilus guianicus, new species

MALE.—Globular portion of face brownish yellow, covered with similarly colored pollen, the face elsewhere brown with yellowish-gray pollen, the small frontal triangle brownish-yellow pollinose. Beard black. Antennæ yellow, third segment brown, wider than long; arista brown, short pubescent. Vertical triangle prominent, and together with the occiput brownish-ochreous pollinose, the ground color blackish. Proboscis reddish; palpi blackish with reddish base, the hairs black.

Mesonotum opaque rusty brown with three obscure, linear darker vittæ; clothed with golden tomentum, the posterior calli with some erect black hairs. Humeri, notopleura and posterior calli luteous, the scutellum and pleura slightly darker, the latter with diffuse yellowish-brown and grayish-yellow pollen. Propleura black-haired, the mesopleura and metapleura with deep golden pile, the hairs evidently brownish apically. Scutellum with marginal row of golden-brown bristles and some golden-yellow hairs.

Legs yellow, the tarsi brown except the first segment. Wings hyaline, the stigma luteous, of moderate size. Squamæ transparent, with brown border and short fringe. Halteres reddish with brown knob.

Abdomen with the first three segments dull reddish, the fourth with a lateral reddish-yellow triangle behind, the narrow apices of the fourth and following segments reddish yellow, elsewhere opaque black. Pile golden yellow, erect, black on the black portions. Venter with the first three sternites dull reddish, the remainder black, the golden pile extending along the middle to the apex of abdomen.

TYPE.—Male, Kartabo, British Guiana.

Chrysopilus cubensis, new species

Opaque black, the base of the abdomen and the legs yellow; wings hyaline. Length, 6.5 mm.

MALE.—Head grayish-brown pollinose, the facial depression and lower part of the occiput rather cinereous; facial swelling with a small white spot in the middle. Hair black, very short on the vertical triangle. Proboscis brownish red; palpi black. Antennæ brown, the second and third segments of almost equal size, the second brownish red; arista short pubescent.

Thorax apparently brownish red in ground color, the metapleura more yellowish; pollen black; tomentum sparse, short, golden red; hair black, that immediately below the squamæ yellow.

Legs yellow; coxæ brown, thinly brown pollinose, black-haired; tarsi brown, paler basally. Femora with pale hair and whitish tomentum above, the posterior pair with black tomentum on the apical fourth.

Wings hyaline; stigma short, brown, both ends transverse; stigmal cell widened; anal cell closed and petiolate. Squamæ clear, their border and fringe brown. Halteres reddish, the knob blackish with pale apex.

Abdomen opaque black, the broad apex of the first and broad base of the second segment yellow; basal two sternites yellowish. No tomentum; hair black, yellow on the yellow portions.

TYPE.—Male, Soledad, Cuba, April 10, 1926 (J. Bequaert).

This species bears a close resemblance to *elegans* Schiner but that species has the second abdominal segment yellow, with a small, subapical dark spot, and the stigma much longer and rather pointed apically.

Chrysopilus donato, new species

Thorax and scutellum with greenish, scale-like tomentum; wings dark brownish; abdomen weakly fasciate. Length, 6.5 to 8.5 mm.

MALE.—Head blackish, cinereous-white pollinose, the facial swelling reddish brown in ground color. Hair black on the palpi, vertical triangle and upper half of the occiput, yellow on the lower half of the occiput and proboscis. Palpi black; proboscis brownish red. Antennæ brown; third segment slightly smaller than the second; arista pubescent.

Thorax brownish, the pleura reddish with the exception of the mesopleura. Pollen on the mesonotum and scutellum brown, the tomentum green, the disc of the mesonotum with some golden-yellow hairs intermixed. Hair black, yellow in front of the halteres. Pleura gray pollinose.

Legs reddish yellow, the tarsi brown; hair black, the coxæ mostly yellow-haired.

Wings dark brownish, paler on the basal third; stigma not differentiated, the stigmal cell gradually narrowing apically. Squamæ pale brownish, with brown border. Knob of halteres dark brown, the stem reddish yellow.

Abdomen brownish red with the basal half of the second to fourth, and the whole of the following segments, brown, or with only the first segment and part of the venter reddish. Second, third and fourth segments black tomentose on the basal half. First tergite and basal four sternites brownish yellow or reddish. Hair wholly black, fairly abundant.

TYPES.—Holotype, male, Barro Colorado Island, Canal Zone, February 13, 1929; paratype, male, Barro Colorado Island, December 28, 1928 (Curran).

Chrysopilus macularis, new species

Differs from *donato*, new species, in having the mesonotum rusty reddish with a black prescutellar spot, pale wings, etc. Length, 7 mm.

FEMALE.—Head blackish, the facial swelling, palpi and proboscis yellowish; hair black, on the lower half of the occiput yellow, mixed yellow and black on the proboscis. Front very narrow, opaque brown, the anterior depression cinereous; no hair except on the ocellar triangle. Occiput greenish-gray pollinose, brown above. Face not distinctly pollinose. Antennæ black, the second and third segments of about the same size; arista pubescent.

Thorax rusty reddish, the pleura mostly yellowish; a large, subrectangular spot in front of the scutellum, which emits three obscure lines extending to the anterior margin of the mesonotum, and the scutellum, except its broad posterior border, black. Hair black, partly yellow in front of the halteres and immediately below the lower lobe of the squamæ. The tomentum is scalelike and green on the notopleura and the black spot, mixed blackish and golden on the rest of the dorsum.

Legs reddish yellow, black-haired, the femora black tomentose except below; tarsi brown.

Abdomen shining black, in the middle with a broad reddish vitta which is interrupted at the sutures and does not extend behind the third segment. The tomentum is mostly golden brown but it is partly green on the first segment, forms very large, subrectangular spots on the sides of the second segment, an entire fascia across the basal fourth of the third segment and a broadly interrupted fascia on the basal fifth of the fourth segment. Hair black. Venter wholly reddish yellow, clothed with sparse, short black hair. Ovipositor wholly blackish.

TYPE.—Female, El Yunque, Loquillo Mts., Porto Rico, 2000–3500 ft., March 29, 1930 (M. D. Leonard).

Chrysopilus latistigma, new species

Rusty reddish yellow; palpi and a prescutellar spot blackish; pile golden yellowish, partly black on the abdomen. Length, 6 mm.

FEMALE.—Head dark in ground color, the orbicular facial swelling and the proboscis reddish. Pollen grayish, more or less tinged with yellow on the face, brownish yellow on the facial swelling, rather ochreous on the upper third of the occiput and the greater part of the front; from anterior view the front appears ochreous brown; on either side of the ocellar triangle is a roundish brown spot. Front moderately wide, the sides gently diverging anteriorly, strongly divergent at the vertex; hair very short, sparse, black. Occiput, proboscis and third antennal segment yellow-haired; palpi black-haired and brown in color. Antennæ reddish; third segment a little smaller than the second; arista mostly black, pubescent.

Thorax rusty reddish; pleura cinerous-yellow pollinose. Mesonotum with three slightly darker vittæ, the outer ones interrupted at the suture, and in front of the scutellum with a large brown spot; pollen thin except posteriorly. Hair and tomentum wholly golden yellow.

Legs reddish yellow, black-haired, coxæ with golden-yellow hair, the femora with yellow hair and tomentum; tarsi brown with the first segment mostly yellowish.

Wings hyaline; stigma yellowish brown, wide, convex apically, the stigmal cell widened. Squamæ clear, with pale brownish border and fringe. Halteres reddish yellow, the basal half of the knob brown.

Abdomen rusty reddish-yellow, or pale orange, with brassy-yellow tomentum-like pile, the apical two-thirds of the second and third segments black pilose, the fourth with scattered black hairs on the middle of the posterior half.

TYPE.—Female, Barro Colorado Island, Canal Zone, January 4, 1929 (Curran).

Chrysopilus fasciventris, new species

Rusty reddish, the abdomen banded with black; third antennal segment pale yellow. Length, 6 to 8 mm.

MALE.—Head blackish, cinereous-white pollinose; facial swelling yellowish, the proboscis and palpi reddish yellow. Pile yellowish, the occipital cilia black. Antennæ brownish red, the third segment pale yellow, about as large as the second; arista black, pubescent.

Thorax rather shining, the pleura reddish yellow. Hair black, the propleural pile and the hair below both squamal lobes, yellowish or reddish; no tomentum.

Legs reddish yellow, the tarsi brown except basally; hair black, the coxæ pale-haired except apically.

Wings gray, the stigma yellowish brown, very long, the second vein normal. Squamæ grayish, with brown border and fringe. Knob or halteres reddish brown.

Abdomen rusty reddish, the fifth to seventh segments blackish; second segment darkened on the basal half, the third with a broadly interrupted blackish fascia on the basal third; fourth with an entire but medianly narrowed black fascia on the basal third; fifth segment with a transverse reddish spot on either side of the apical half. Genitalia brownish red. Basal four sternites reddish yellow. Pile wholly black.

FEMALE.—Front rather narrow, with almost parallel sides, in some views dull blackish, in others rather silvery white; a very few, very short, black hairs. Occiput black above, in some views partly white, the lower half cinereous white. Black fascia on the second, third and fourth abdominal segments shining, occupying the basal half, broadly excised in the middle behind; fifth segment wholly black. Ovipositor brown and yellow annulate.

TYPES.—Holotype, male, Barro Colorado Island, Canal Zone, February 18, 1929; allotype, female, Barro Colorado Island, December 28, 1928 (Curran).

The following four descriptions have been prepared by Mr. S. W. Bromley.

Chrysopilus fascipennis, new species (Bromley)

Small species with black thorax (golden pubescence on mesonotum, silver pubescence on pleura), pale yellow legs, abdomen yellow and brown and wings beautifully banded with brown. Length, 6 to 7 mm.

MALE.—Antennæ brownish, second segment contrastingly white pruinose. Face and clypeus white pruinose. Labrum pale yellow. Beard white. Thorax deep brownish-black. Mesonotum with fine, short appressed golden pile. Pleura with white pile and bloom. Front coxæ with rather long white hairs; other coxæ with both white and black hairs. Scutellum shining brown with a few short, fine black hairs. Postscutellum with a few silvery hairs and a scanty tuft of black hairs at sides. Legs pale yellow; tibiæ and tarsi grayish. Halteres with yellow stems and brown knobs. Wings hyaline with three broad brown bands, the first at the base, the second at about one-third of the length of the wing and the last, the largest, occupies the apical half of the wing. The third band contains four hyaline areas: a spot on the outer portion of first submarginal cell; two spots in the second submarginal cell; and the second posterior cell has over half of its exterior portion hyaline. Abdomen with silvery hairs at base; sordid white hairs along the sides. Ventral segments 1–5 yellow, rest black. Dorsal segments: first, yellow; second, yellow with median brown band; third, brown with borders yellow; fourth brown with only anterior border yellow, fifth and following, blackish brown.

TYPES.—Holotype, male, Fonteboa, Rio Negro, Brazil. Paratypes: three males, Kartabo, British Guiana, March 5, May 1, and 5, 1924.

Chrysopilus rhagiodes, new species (Bromley)

A pale brown species with wings yellow basally, grayish apically, and a conspicuous brown stigma in the apex of the marginal cell. There is a stump of vein at the base of the anterior branch of the third vein. Length, 11 mm.

FEMALE.—Mouth-parts and antennæ pale yellowish (arista brown). Rest of head dark brown. Occiput grayish pollinose, occipital bristles black. Beard scanty,

pale yellow. Thorax sordid brown, pleura and coxæ paler. Mesonotum and scutellum with fine black hairs. Coxæ with pale sordid-yellow hairs. Postscutellum pale yellowish, parascutellum with pale yellowish hairs. Halteres pale yellowish-brown with dark knobs. Legs pale yellowish with gray-brown tibiæ and tarsi. Wings with brown veins; base pale yellowish; apical third and posterior border grayish; discal cell and a spot in the first submarginal cell nearly hyaline; veins bordered with brownish; a dark brown stigma in apex of marginal cell. Abdomen brown with short light brownish hairs. First segment with blackish hairs on dorsum. First tergite pale brown; second, third, fourth pale brown with dark band; fifth and following dark brown. One female from Panama has only the apical fifth of the wing grayish and no stump vein.

MALE.—Similar, but abdomen lighter colored and with all the tergites banded. No stump on anterior branch of third vein.

TYPES.—Holotype, female, Barro Colorado Island, Canal Zone, February 1, 1929; allotype, male, France Field, Canal Zone, January 19, 1929 (Curran). Paratypes; female, Kartabo, British Guiana, May 12, 1924; male, British Guiana, March 11, 1913; female, Barro Colorado Island, Canal Zone, November 13, 1923 (F. E. Lutz).

Chrysopilus argenteofasciatus, new species (Bromley)

Brown species with reddish eyes, hyaline wings with brown stigma, and the abdomen velvety black banded with silvery-white pilose fasciæ. Legs pale yellow with tibiæ and tarsi grayish. Length, 6 to 8 mm.

FEMALE.—Head, mouth-parts and antennæ brown. Eyes reddish. Occiput grayish-brown pollinose with brown bristles. Beard whitish. Thorax dark brown, sides and coxæ paler. Mesonotum and scutellum with fine appressed yellowish-white pile. Scutellum with dark, stronger hairs along margin. Coxæ with brown hairs. Wings hyaline with brown stigma in apex of marginal cell. Parascutellum with black hairs. Legs pale yellowish-brown with tibiæ and tarsi grayish. Halteres brown with knobs darker. Abdomen deep velvety blackish-brown with fine black hairs and the anterior borders of the segments with bands of silvery-white pile.

TYPES.—Holotype, female, Kartabo, British Guiana, May 18, 1924; paratype, female, Kartabo, March 5, 1924.

Chrysopilus sericeus, new species (Bromley)

A small golden species with tip of the abdomen black; wings hyaline (except for pale brown inconspicuous stigma), legs yellow, mesonotum with fine golden pubescence; eyes large dark reddish- brown above, black below. Length, 5 mm.

MALE.—Eyes large, reddish-brown above, black beneath. Rest of head, including mouth-parts, yellowish. Beard and occipital hairs light brown. Thorax light golden brown, legs yellow. Mesonotum and scutellum with fine golden pubescence. Halteres yellow; knobs darker. Coxæ and pleura with yellowish hairs. Wing hyaline, veins yellow, small indistinct pale yellowish-brown stigma in marginal cell. Abdomen golden brown with concolorous hairs. Fourth tergite with brownish median spot, fifth with brown band, following tergites blackish brown. Venter yellowish brown.

HOLOTYPE.—Male, Kartabo, British Guiana, April 7, 1924.